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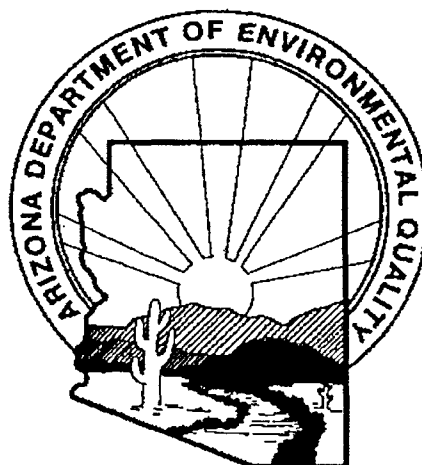
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SITE INSPECTION ACTION MEMORANDUM
SOUTHERN PACIFIC TRANSPORTATION COMPANY

1301 East Harrison Avenue
Phoenix, Arizona
85036
Maricopa County

EPA ID#: AZT050010016

STATE ID#: 347



PREPARED BY:
John Robertson
August 6, 1992

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF WATER QUALITY
GROUNDWATER HYDROLOGY SECTION
SITE ASSESSMENT HYDROLOGY UNIT

THIS REPORT IS PRINTED ON RECYCLED PAPER

INTRODUCTION

The U.S. Environmental Protection Agency (EPA), Region IX, under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA) has tasked the Arizona Department of Environmental Quality to conduct a Site Inspection at the Southern Pacific Transportation Company's Phoenix Yard, along Harrison Street between 7th and 16th Streets, in Phoenix, Maricopa County, Arizona [(A-01-03) n 1/2, s 1/2, section 9].

The Southern Pacific Transportation Company's Phoenix Yard was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) on June 1, 1987. In recognition of the proximity of this site to existing groundwater contamination known to be present in the Eastlake Park area (along the north side of the Southern Pacific railroad tracks between 15th and 16th Streets), it was recommended by an ADEQ task force in early 1986 that a Preliminary Assessment (PA) should be undertaken for the Phoenix Yard of the Southern Pacific Transportation Company (SPTco).(1) A PA was completed for the EPA in August, 1990.(2) The purpose of the PA was to review existing information on the site and its environs to assess the threat(s), if any, posed to public health, welfare, or the environment, and to determine if further investigation under CERCLA/SARA is warranted.

After reviewing the PA, the EPA decided further investigation of the Southern Pacific Transportation Company's Phoenix Yard would be necessary to more completely evaluate the site using EPA's Hazard Ranking System (HRS) criteria. The HRS assesses the relative threat associated with the actual or potential releases of hazardous substances from the site. The HRS is the primary method of determining a site's eligibility for placement on the EPA's National Priorities List (NPL). The NPL identifies sites at which the EPA may conduct remedial response actions. This SI Report is the result of the recent investigations by ADEQ and the EPA.

SITE DESCRIPTION

The Southern Pacific Transportation Company's Phoenix Yard runs east-west from 7th to 16th Streets along Harrison Street, occupying approximately the north half of the south half of section 9, Township 1 North, Range 3 East. The Phoenix Yard includes switching tracks and sidings which extend to the southeast from the main line tracks near 7th Street, and then which curve back again to the northeast entering the main line at 16th Street. The entire yard encompasses approximately 80 acres.

SPTco operates the Phoenix Yard as a rail switching yard, as well

as performing minor locomotive repair (restricted to inside-the-cab work), freight car repair (restricted to welding), facility maintenance, off-loading and storage of new automobiles, and locomotive refueling.(2,3)

The site contains four septic systems for domestic sewage disposal from the facility offices, locker rooms, etc. In addition, there is a French drain located in the area where semi trailers are loaded and unloaded from railcars, as well as historic oil sumps and a cesspool, both located within the active rail yard.(3)

The Phoenix Yard lies within the East Washington WQARF Project Area (EWA), a 24 square mile area in central Phoenix in which VOC contamination of the groundwater has been documented in over 40 wells at levels exceeding either Arizona Maximum Contaminant Levels (MCLs) or state established health-based advisory levels.(4, Figure 1) Contaminated wells within the EWA lie up gradient, downgradient and cross gradient (with respect to groundwater flow direction) of the Phoenix Yard.(4,5)

SUMMARY OF SITE INSPECTION ACTIVITIES

The PA conducted in August, 1990, used conservative assumptions to assess relative risk of the site. The assumptions include:

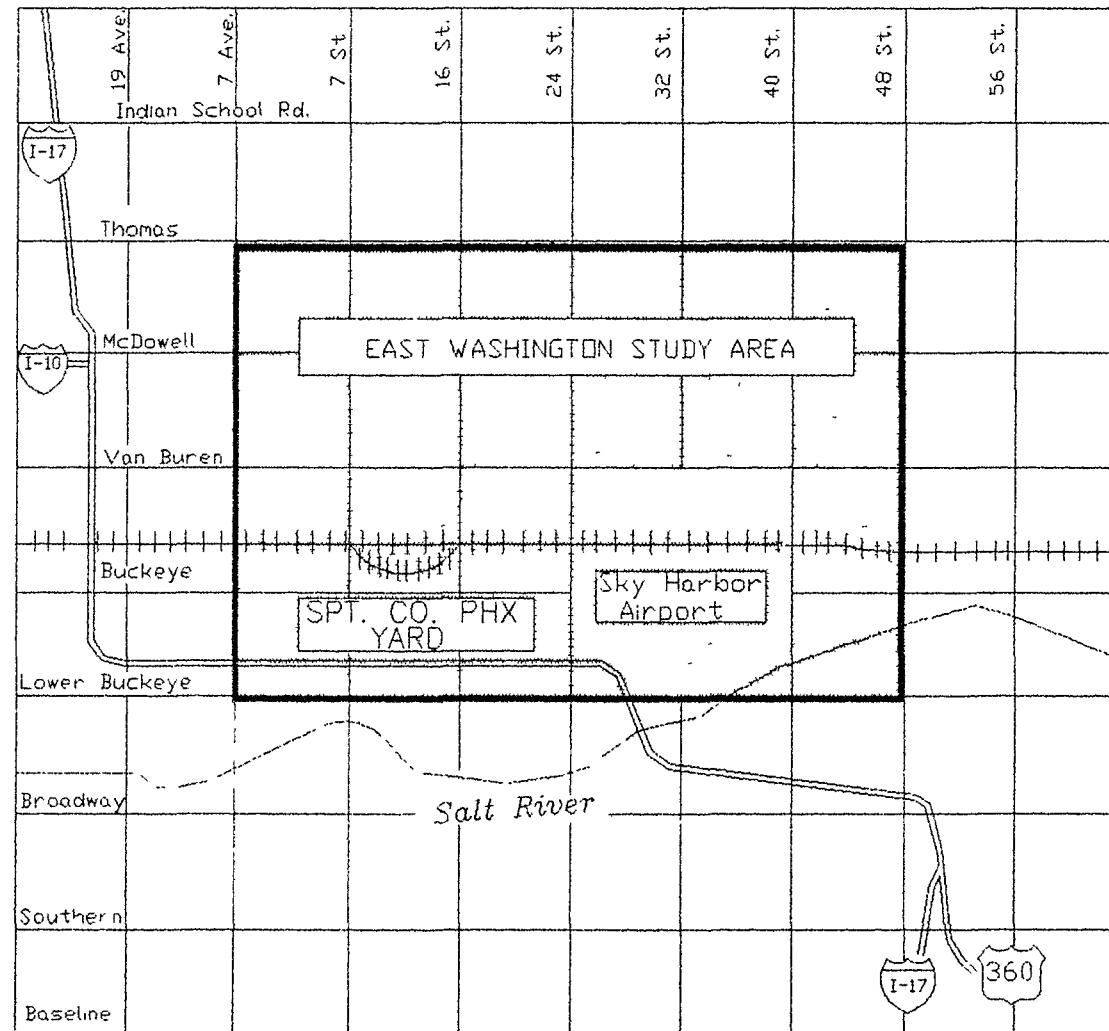
- Hazardous materials transported through the rail yard may have spilled onto the ground and contaminated the aquifer (observed release projected).
- Estimations made regarding the types and amounts of cleaning solvents used for equipment cleaning.
- High groundwater targets within a 4 mile radius of the site.

The EPA requested that the SI be conducted to further evaluate HRS assumptions. Further evaluation included re-evaluation of waste sources and groundwater data using the HRS.

A facility inspection was conducted on March 4, 1992 to examine conditions at the rail yard with respect to the above concerns. The inspection determined:

- Hazardous materials (batteries used for crossing signals) are stored on pallets at the locomotive fueling area (prior to being manifested off site).
- No hazardous materials are generated in the Phoenix Yard.
- The cleaning solution (a Chevron product containing "petro naptha") mentioned in the PA has not been used at the Phoenix Yard for at least the past 8 years (an alkaline detergent is

FIGURE 1: THE PHOENIX YARD OF THE
SOUTHERN PACIFIC TRANSPORTATION COMPANY
AND THE EAST WASHINGTON WQARF STUDY AREA



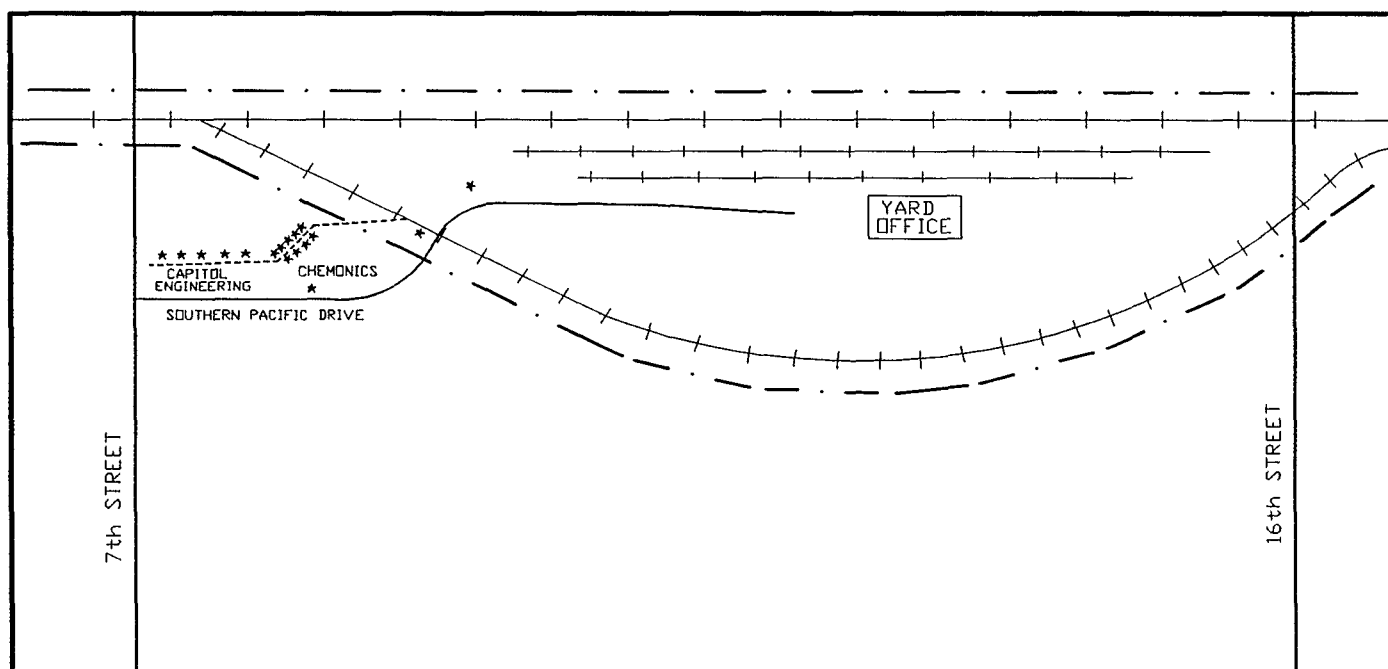
used), and there is no evidence to suggest that it was ever used at the facility.

- The dust control agent ("Lignosite") used in the rail yard is non-hazardous. There is also some reported historical usage of petroleum products for dust control.(10)
- There is no evidence to suggest that the activities at the SPTco have contributed to the groundwater contamination in the EWA WQARF area. Chemicals detected in the groundwater beneath the EWA include benzene, carbon tetrachloride, chlorobenzene, chloroform, 1,1-DCE, t-1,2-DCE, ethylbenzene, methylene chloride, PCE, TCE, 1,1,1-TCA, 1,1,2,2-TCA, toluene, vinyl chloride, and xylenes.(4) SPTco reports these chemicals were not used at the facility.(3)

Additional information includes:

- An industrial rail spur (abandoned) owned by SPTco, located south of the main line tracks at the west end of the rail yard is currently leased by Chemonics (activities at this site, the corporate headquarters, are limited to storage and distribution of fire retardant, as well as administrative operations). The rail spur formerly served various industries, including a pesticide formulation plant. Shallow soil samples (collected at various depths from 0-3.5 ft) along this spur indicate pesticide contamination of the soil exists at levels exceeding Arizona Health Based Guidance levels (HBGLs) for dieldrin, DDT/DDE/DDD, toxaphene and chlordane. This contamination does not appear to have resulted from SPTco activities as defined in the P.A. The property immediately west of Chemonics (owned and operated by Capitol Engineering, a metal fabrication firm) likewise has shown pesticide contamination of the soil, with exceedences of HBGLs for chlordane, DDT/DDE/DDD, and toxaphene. Although a P.A. was completed for the Chemonics facility (AZD057907883) in August, 1990, (which recommended a medium priority SI), no P.A. has been completed for Capitol Engineering.(6,7, Figure 2)
- That portion of the Phoenix Yard immediately adjacent to the Chemonics site (approximately 200 yards to the east and northeast of the former rail spur) also has shown pesticide (toxaphene) contamination of surface and near surface soils at levels exceeding the HBGL.(Figure 2) This contamination is not being addressed in this SI Action Memorandum because it appears to have resulted from airborne transport of pesticide-contaminated dust particles from the rail spur area. Consequently it should be addressed as part of the Chemonics SI.

FIGURE 2: SCHEMATIC DIAGRAM OF THE PHOENIX YARD OF THE SOUTHERN PACIFIC TRANSPORTATION COMPANY



KEY

- . — CURRENT PROPERTY BOUNDARIES OF THE PHOENIX YARD
- + + + EXISTING TRACKAGE
- - - INDUSTRIAL RAIL SPUR (ABANDONED)
- * LOCATIONS OF SURFICIAL SOIL CONTAMINATION BY PESTICIDES AT LEVELS EXCEEDING ARIZONA HEALTH BASED GUIDANCE LEVELS

0 1/4 1/2
SCALE MILES



The pertinent HRS factors associated with the site are:

- The only drinking water wells located within a four mile radius of the Phoenix Yard are two public supply wells, a private dairy well and a City of Phoenix (COP) municipal well. They are located at distances of approximately 3 1/2 and 3 3/4 miles, respectively, from the site. The COP well serves approximately 1718 persons, and the dairy well serves approximately 900 persons. Together these wells have a total target population of 2618 persons.(8)
- The potential for a release from the Phoenix Yard to reach a surface water body is low. SPTco does not discharge any water or wastes to the surface.(3) The nearest surface water to the site is the Salt River, an ephemeral stream located approximately 1.3 miles south (cross gradient) of the site.(9) There are no drainage channels linking the site with the river. The Salt River is not utilized as a source of drinking water at this location and there are no target populations associated with it in this area. There is a stormwater retention basin located approximately 0.2 miles south of the yard boundaries. It does contain drywells, but is a closed impoundment in the sense that there is no surface water flow out of the basin.(3)
- Due to the association between the soil contamination in the Phoenix Yard and the abandoned rail spur which served, among other facilities, the pesticide formulation plant, the soil exposure pathway will be addressed as part of the Chemonics investigation.
- The air migration pathway is not a pathway of concern because: the facility has no air emissions (other than locomotive exhaust); and the potential to release contaminants (primarily diesel fuel and lubricating oils) from the soil into the air is minimal due to their low volatility.(3)

ADEQ MANAGEMENT REVIEW/CONCURRENCE

Judy Haywood
Signature

8/12/92
Date

Lennell Carter
Signature

8/27/92
Date

EPA RECOMMENDATION

INITIAL DATE

No Further Remedial Action Planned Under CERCLA

Jo 10-9-92

Higher Priority for Further Site Assessment

Lower Priority for Further Site Assessment

Defer to Other Authority (e.g., RCRA, TSCA)

Notes:

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4. Kleinfelder, Inc., Water Quality Assurance Revolving Fund, Phase I Report, Task Assignment K-3, East Washington Area, August, 1989.
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8. Internal files, PA/SI Unit, Hydrology Section, Office of Water Quality, ADEQ.
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